



**Northwestern University
Center for Talent Development
Gifted LearningLinks Program**

**Course Syllabus
Fall 2011
September 15 – November 17
Grades 3-5**

Course Title: It's A Puzzlement

Course Description:

Puzzles are mind-boggling fun, but they also prompt students to see problems in a new light, increasing mathematical aptitude. Participants are challenged with puzzles that call for inductive and deductive reasoning, as well as other forms of creative problem solving. Students' critical thinking and computational skills are enhanced as they puzzle over puzzles. Final projects for this course will be student choice.

Puzzlements Outcomes:

Upon successful completion of this course:

Students will know:

- The difference between deductive and inductive reasoning
- How to pose and post thinking questions in a forum using the Discussion Board and Acrobat Connect classroom with like-minded peers
- How to plan and create their own puzzles using the elements, techniques and strategies learned

Students will understand:

- The use of reasoning and logic determines alternate solutions
- That asking the right type of questions fosters imaginative and create thinking habits
- The need to be persistent when an apparent solution is not in sight

Students will be able to do:

- Identify and explain several different approaches to problem solving
- Demonstrate problem-solving strategies
- Practice and expand upon their individual thinking styles
- Independently recognize, isolate and decipher critical information and discard extraneous information
- Unravel infuriating captivating Sudoku puzzles

- Will keep and maintain a journal to record definitions, terms, theories, and problem solving strategies
- Will record in the journal observations, discoveries and reflections from article readings as they work on individual and group activities

Resources and Materials will be provided within the course:

* Resources and Reference Materials:

Entertaining Mathematical Puzzles

Martin Gardner Illustrated by Anthony Ravielli
Dover Publications, Inc. New York

Forty Fabulous Math Mysteries Kids Can't Resist

Martin Lee and Marcia Miller
Scholastic Professional Books

How to Solve Sudoku A Step-by-Step Guide

Robin Wilson
Sterling Publishing Co., Inc. New York

Math Games For Middle School

Challenges and Skill-Builders for Students at Every Level
Mario Salvadori and Joseph P. Wright
Chicago Review Press

Math Starters! 5-10 Minutes Activities That Make Kids Think, Grades 6-12

By Judith A. Muschla and Gary Robert Muschla
Jossey - Bass A. Wiley Imprint

Mensa Challenge Your Brain Math & logic Puzzles

by Dave Tuller & Michael Rios
Sterling Publishing Co., Inc. New York

Mensa Exercise Your Mind Math & Logic Puzzles

by Dave Tuller & Michael Rios
Sterling Publishing Co., Inc. New York

Mensa Guide to Solving Sudoku

by Peter Gordon Puzzles by Frank Longo
Sterling Publishing Co., Inc. New York

Mind Benders B2 Deductive Thinking Skills Grades 7-12

by Anita Harnadek
The Critical Thinking Co. Seaside, California

My Best Mathematical And Logic Puzzles
by Martin Gardner
Dover Publications, Inc. New York

The Mensa Genius Quiz-A-Day Book
by Dr. Abbie F. Salny and the Members of American Mensa, Ltd.
Perseus Book Cambridge, Massachusetts

For a complete list of articles and websites click on Course Documents of the course site.

Policy Regarding Web Site Content

While a staff member (which includes but is not limited to instructors, teaching assistants, residential staff, office staff) may use or refer students to third-party web sites for instructional purposes, s/he is required to review thoroughly any such web sites for inappropriate content before referencing them. This includes clicking on all links contained in any such web site, reviewing the materials contained on every page within a web site, and ensuring that the web site does not provide links to other inappropriate web sites. If there is any doubt about whether something is appropriate, a staff member is instructed to err on the side of caution and not use the web site or check with a CTD supervisor. If a referenced third-party web site is later determined to contain inappropriate content, the staff member may be subject to discipline.

Materials Needed:

- Weekly Journal (provided)
- Graph paper <http://incompetech.com/graphpaper/174/>
- Readings: (provided)
- Websites: (provided)
- Materials will also be posted with the individual assignments.

On-line discussion: Email, discussion board, collaboration sessions and Acrobat Connect™ class sessions will be utilized to address questions that students may have. Some assignments will require students to use these tools in order to facilitate talk between students. Students are encouraged to interact with both the teacher and the other students enrolled in the class.

Homework Assignments: Homework assignments will be given for each week. Each assignment is vital to understanding the topic and should ALWAYS be completed prior to going on to the next assignment.

Keeping on Track: Periodically, you may receive emails from me, asking about your progress thus far. As this course is done independently, it is up to you how much you do and when you do it. Unless circumstances dictate otherwise, it is suggested that students complete a lesson every week. Doing so will keep you on course to complete the class by the deadline and keep you from having to complete multiple assignments at the last minute.

Look on the Assignment Page of the course site and read information inside the folder: Stay Organized: Helpful Hints.

Academic and Performance Expectations

Gifted LearningLinks courses are intended for highly motivated, independent learners.

- * While instructors initiate contact with students, it is each student's responsibility to contact the instructor with questions and concerns.
- * While online programming provides students with the flexibility to schedule study time around their other academic and personal commitments, GLL students must be able to:
 - Devote the appropriate amount of time per week to study for their courses.
 - Summer (nine weeks) 2-5 hours per week.
 - Plan ahead and meet all assignment and test deadlines as set out in the course syllabus.
- * Unless prior arrangements have been made with the instructor, students are expected to follow the course syllabus and meet all course requirements outlined therein.

Performance issues will be resolved in the following ways:

- * Instructor and student will confer
- * Instructor will contact the parent(s)/guardian(s)
- * Gifted LearningLinks staff will arrange a conference with the student, parent(s)/guardian(s) and instructor.

Chronic performance problems unresolved by the above measures may warrant dismissal from the program. If CTD dismisses a student from a Gifted LearningLinks course, CTD will enter a grade of "X" for that course on the student's transcript.

To ask a general question, post a thread in the "Help" Discussion Board forum in Blackboard. To ask questions of a more private nature, email your instructor. All questions will be answered within 24 hours except for weekends and holidays.

Course Timeline:

	Topic/Focus	Activities & Reading Assignments	What do I need to post to the Discussion Board?	What do I need to turn in?
Week 1	GLL Orientation to Online Learning	Week One Assignments - Check the "Announcement" page for weekly information. Go to "Assignment" page and look in Week One folder.	Introductions posted on the Discussion Board before the end of Week One.	Response Journal Week One and Participation on the Discussion Board
Week 2	Deductive and Inductive Reasoning	Sherlock Holmes Asking the Right Kind of Questions/Story to Solve Tangrams	Submit two or more of your journal entries on the DB. Respond to two or more of your peers on the Discussion Board.	Response Journal Week Two and Participation on the Discussion Board
Week 3	Critical Thinking	Navajo Code Talkers Mensa Exercise Story to Solve Acrobat Connect™ Session TBA	Submit two or more of your journal entries on the DB. Respond to two or more of your peers on the Discussion Board	Response Journal Week Three and Participation on the Discussion Board
Week 4	Metacognition Visual Reasoning Spatial Reasoning	Story to Solve Topology Puzzles Plane Geometry Puzzles Solid Geometry Puzzles Acrobat Connect™ Session TBA	Submit two or more of your journal entries on the Discussion Board.	Response Journal Week Four and Participation on the Discussion Board
Week 5	History of Sudoku Strategies and Techniques	Sudoku Activity Mensa Exercise Story to Solve Acrobat Connect Class™	Submit three or more of your journal entries on the DB. Respond to three or more of your peers on the Discussion Board.	Response Journal Week Five and Participation on the Discussion Board

Week 6	Critical Thinking	Sudoku Activities continued Mensa Exercise Story to Solve Acrobat Connect™Session TBA	Submit three or more of your journal entries on the DB. Respond to three or more of your peers on the Discussion Board.	Response Journal Week Six and Participation on the Discussion Board
Week 7	Elements of Reasoning Logical Reasoning Common Sense Problem Solving Strategies	Story to Solve Probability Puzzles Money Puzzles Stories With Holes N. Levy	Submit three or more of your journal entries on the DB. Respond to three or more of your peers on the Discussion Board.	Response Journal Week Seven and Participation on the Discussion Board
Week 8	Optical Illusions Mathematical and Logic Puzzles Entertaining Puzzles	Speed Puzzles Story to Solve Tricky Puzzles With A Twist Acrobat Connect™Session TBA	Submit three or more of your journal entries on the DB. Respond to three or more of your peers on the Discussion Board.	Response Journal Week Eight and Participation on the Discussion Board
Week 9	Class Exhibit and Final Presentations	Final Project Student Choice Acrobat Connect™Session TBA	Final Project Self-Evaluation	Week Nine Participation on the Discussion Board

Refer to this course timeline frequently. Based on the results of the pre-assessment and individual learning readiness, this course timeline is subject to change.

Student Evaluation and Grading Policies for Credit Courses Only:

Enrichment students will receive a final narrative evaluation after the course is complete.

Course Requirements

* All Gifted LearningLinks (GLL) courses require a properly-maintained computer with broadband Internet access, a recent-version web browser (such as Explorer 6 or 7, Firefox, or Safari), and a stable email account. Please don't change your email once you have registered for a course, because difficulties in communication will greatly affect your success in the course!

* All GLL courses use the Blackboard Course Management System. Web browsers must be Java- and cookie-enabled.

* Please check your email and the Blackboard Classroom 3—4 times a week!

* You are expected to be familiar with standard computer operations (e.g., login, cut & paste, email attachments) and to acquaint themselves with the Blackboard Course Management System

and Acrobat Connect (formerly called Breeze) software prior to the start of class. Tutorials for using the software are in the Blackboard Classroom in the GLL Tutorials link.

* In order to be successful in an online course, you need the following skills:

- self-direction
- independent time management
- ability to meet deadlines

Intellectual Ownership, Academic Honesty, & Netiquette

The Gifted LearningLinks online course environment is offered as a virtual space where students and professionals may meet, communicate, and collaborate. Participants are expected to behave as they would in the workplace or in a face-to-face classroom, following online rules of etiquette (netiquette). Students are expected to act with honesty and personal integrity in all of their academic work and social interactions. This applies to all academic exercises including assignments, papers, labs, and assessments. See the CTD Web site for specific details:

<http://www.ctd.northwestern.edu/gll/program/academics/expectations/>

Instructor Biography:

Loretta received her B. A. in Early Childhood Education from Northeastern Illinois University Chicago, Illinois 1975. Her M. A. Education Curriculum & Instruction from Clarion University, Clarion, Pennsylvania 1976. She taught in the following school districts:

- Glenview School District #34 Glenview, IL. Grade 5, 1991-2007
- Hillsborough County Public Schools Brandon, Florida Grade 5, 1989-1991
- Ministry of Education Nassau, Bahamas Grades 7-12, 1983-1989
- Oak Park School District #97 Oak Park, IL. Grades 1-3, 1976-1983

Loretta is a retired teacher. She teaches Project Excite, Saturday Enrichment Program, One-week Summer APOGEE Program and Gifted LearningLinks at the Center for Talent Development. Loretta is also a member of the Illinois Association For Gifted Children.

Contact Information:

xxx@xxx.xxx

Work Phone xxx-xxx-xxxx

Office Hours: By appointment

Acrobat Connect Classroom: xxx.xxx.xxx

All questions will be answered within 24 hours except for weekends and holidays.

Notes:

I check e-mail and this website daily, so those are two ways to reach me rather quickly. Please use the E-mail feature on the site, in order for us to keep better track of your inquiry/concern!

Fall Schedule:

Project Excite on Saturdays all day Evanston campus.